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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/733,870	12/11/2003	Brad Bivens	1505800-050745	8092

23570 7590 01/24/2005

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EXAMINER

KOCH, GEORGE R

ART UNIT	PAPER NUMBER
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1734

DATE MAILED: 01/24/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/733,870

Applicant(s)

BIVENS, BRAD

Examiner

George R. Koch III

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Claim Objections

1. Claim 6 is objected to because of the following informalities: Claim 6, in line 2, makes reference to a "venture vacuum pump". Based on the specification, it appears that --venturi vacuum pump-- was intended. Appropriate correction is required.
2. Claim 15 is objected to because of the following informalities: Claim 15, in line 2, makes reference to a "venture vacuum pump". Based on the specification, it appears that --venturi vacuum pump-- was intended. Appropriate correction is required.
3. Applicant is advised that should claim 2 be found allowable, claim 11 will be objected to under 37 CFR 1.75 as being a substantial duplicate thereof. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k).
4. Applicant is advised that should claim 3 be found allowable, claim 12 will be objected to under 37 CFR 1.75 as being a substantial duplicate thereof. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k).

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5. Applicant is advised that should claim 4 be found allowable, claim 13 will be objected to under 37 CFR 1.75 as being a substantial duplicate thereof. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k).

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

8. Claims 1-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Garcia (US Patent 6,018,614) in view of Westerman (US 6,270,603 B1) and Rohrberg (US 5,837,968).

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As to claim 1, Garcia discloses a portable curing system (see column 1, lines 23-43, which discloses patching airplanes with non-cured material and heating them with the heater) comprising a carrying case (item 12 - see column 3, lines 12-13), a controller (item 14) located within the case, having a microprocessor (i.e., the standard solid state driver circuits - see column 3, lines 31-52), a vacuum pump (see column 4, lines 15-18, which disclose "standard adjustable Venturi openings") located within the case and having at least one vacuum port for connection to a vacuum line, at least one heater connector (item 26, see Figure 2), at least one temperature sensor system which includes a built-in temperature sensor connector for receiving a temperature input, wherein the controller is operably connected to the vacuum pump, the heater connector and the temperature sensor system, and a display format mounted (see Figure 2) within the carrying case and operably connected to the controller to display information from the controller and to imputer information to the controller.

Garcia does not disclose that the temperature sensor is a thermocouple, or that the display format is a touch screen video display mounted within the carrying case.

Westerman discloses that it is known to use thermocouples (item 28, and see column 4, lines 58-63) in a vacuum bag repair process. Westerman discloses that such devices are used to control the amount of power supplied to the heating unit. Furthermore, one in the art would immediately appreciate that thermocouples have a well known advantage of being operable over wide temperature ranges. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to

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have utilized such thermocouples in order to achieve temperature sensing so that one can control the amount of power supplied over a wide temperature range.

Rohrberg discloses that it is known to include touch screen LCD displays in a modular welding apparatus for controlling the device. One in the art would appreciate that such a touch screen would enable a modern interface with high usability from an intuitive graphics interface. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to have utilized such a touch screen display in order to provide improved usability.

As to claims 2, 3 and 4, the references do not suggest that the video display is pivotable between a stowed and viewing position, that the display is pivotable at least 90 degrees, or that the display is pivotable about a generally horizontal and pivot axis laterally extending between the sides of the carrying case. However, official notice is taken that such pivot element are well known and conventional in order to provide an ergonomic screen and touch interface. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to have utilized a video display that is pivotable between a stowed and viewing position, and further pivotable at least 90 degrees, and further pivotable about a generally horizontal and pivot axis laterally extending between the sides of the carrying case in order to provide an ergonomic interface with high usability.

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As to claim 5, Garcia discloses that the carrying case has a main body and a lid hingedly connected to the main body.

As to claim 6, Garcia discloses a venture vacuum pump (column 4).

As to claim 7 and 8, the references do not suggest at two heater connectors, at least two temperature sensor connector, or at least 10 temperature sensor connectors associated with each of the heaters. However, official notice is taken that it is well known and conventional to multiply parts, such as heater connectors or sensors, for a multiple effect. One in the art would appreciate that duplicating these parts would enable more heating control locations and finer temperature sensing control, improving the quality of the curing operation. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to have utilized such additional elements in order to enable more heating control locations and finer temperature sensing control, improving the quality of the curing operation.

As to claim 9, Rohrberg as incorporated discloses that the video display is a color display (see abstract).

As to claim 10, Garcia discloses a vacuum sensor (i.e., a pressure gage 52) connected to the controller, and electronical controls, which inherently has an electrical connection or "lead".

Claim 11 is rejected on similar grounds as claims 1 and 2 above, as all of the

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Claim 12 is rejected on similar grounds as claim 3 above.

Claim 13 is rejected on similar grounds as claim 4 above.

Claim 14 is rejected on similar grounds as claim 5 above.

Claim 15 is rejected on similar grounds as claim 6 above.

Claim 16 is rejected on similar grounds as claim 7 above.

Claim 17 is rejected on similar grounds as claim 8 above.

Claim 18 is rejected on similar grounds as claim 9 above.

Claim 19 is rejected on similar grounds as claim 10 above.

Claim 20 is rejected on similar grounds as claims 1, 2, and 7 above. The references as applied to claims 1, 2, and 7 above do not suggest using multiple vacuum sensor connectors. However, official notice is taken that it is well known and conventional to multiply parts, such as vacuum connectors or sensors, for a multiple effect. One in the art would appreciate that duplicating these parts would enable more heating control locations and finer vacuum sensing control, improving the quality of the curing operation. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to have utilized such additional elements in order to enable more vacuum sensing control, improving the quality of the curing operation.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to George R. Koch III whose telephone number is (571) 272-1230 (TDD only). If the applicant cannot make a direct TDD-to-TDD call, the

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applicant can communicate by calling the Federal Relay Service at 1-866-377-8642 and giving the operator the above TDD number. The examiner can normally be reached on M-Th 10-7.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christopher Fiorilla can be reached on (571) 272-1187. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



George R. Koch III
Patent Examiner
Art Unit 1734

GRK
1/13/2005